

REMARKS

Claim 3 has been canceled. Claims 13-14 were allowed. Claim 4 has been rewritten in independent form, and is believed to be allowable. New claims 21-57 have been added. New claims 21-28 depend from allowable claim 4, and are allowable therewith. New claims 29-57 are allowable for the following reasons.

Rejections over Heemann

The examiner rejected claim 3 as anticipated by and/or obvious under 35 U.S.C. § 102/103 over U.S. Appl. Pub. No. 2003/0105259 to Heemann et al. ("Heemann"), over U.S. Patent No. 5,360,350 to Koblitz et al ("Koblitz"), and over U.S. Patent No. 3,927,143 to Makowski.

Response

Claim 3 has been canceled. Claims 21-28 depend from allowable claim 4, and are allowable therewith. The examiner cannot establish a case of *prima facie* anticipation or obviousness of the new claims over the cited references for the following reasons. The response is organized by claim groupings:

I. NEW CLAIMS 29-36

New claim 29 reads as follows: "A polystyrene composition comprising polystyrene and a white oil as a plasticizer, wherein the white oil comprises a Fischer-Tropsch derived oil."

-Anticipation

In order to establish a case of *prima facie* anticipation of new claims 29-36 over any of the references, the examiner must establish that a prior art reference discloses every limitation of claims 29-36, either explicitly or inherently. *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1346, 51 USPQ2d 1943, 1945 (Fed. Cir. 1999).

The examiner cannot point to a teaching in Heemann, Koblitz, or Makowski of "[a] polystyrene composition comprising polystyrene." The examiner certainly cannot

point to a teaching in Heemann, Koblitz, or Makowski of a "polystyrene composition comprising polystyrene" which also comprises "white oil."

**-The examiner cannot establish that claims
29-36 are anticipated by Heemann**

Heemann describes "the use of a resin for producing a hotmelt adhesive which, after bonding, is removed from the substrates again in an alkaline medium." Heemann, paragraph [0001]. As explained in Heemann:

[0021] Basic hotmelt constituents are understood to be thermoplastic synthetic polymers which largely determine important properties for the hotmelt adhesives, such as adhesion, strength and temperature behavior (=backbone polymers). Such polymers are:

[0022] polycondensates, such as polyamide resins, copolyamides, polyamide/EVA copolymers, polyamide/siloxane copolymers, polyether amides, polyester amide imides, polyether ester amides, polyester amides and copolyesters,

[0023] polyadducts, such as reactive and nonreactive linear or lightly branched thermoplastic polyurethanes, and

[0024] polymers, such as ethylene/vinyl acetate, ethylene/CO, ethylene/vinyl acetate/CO, ethylene/acrylate/CO, propylene/hexene, SIS and SBS copolymers and other thermoplastic elastomers and amorphous polyolefins, metallocen (sic)-catalyzed polyolefins, more particularly PP, and finally polybutene.

Heemann ¶¶ 21-24, According to Heemann, "[p]referred polymers are atactic polypropylene, polyamides, polyesters, thermoplastic elastomers and ethylene/vinyl acetate copolymers." Paragraph [0025].

The examiner cannot point to a teaching in Heemann of a "polystyrene composition comprising polystyrene." Nor can the examiner point to a composition comprising a combination of "[a] polystyrene composition comprising polystyrene" and "white oil." The examiner certainly cannot point to a teaching or suggestion of polystyrene comprising "clear polystyrene molding material" and white oil. Claim 30. The examiner therefore cannot point to each and every element of claim 29 or 30 in

Heemann, and cannot establish a case of *prima facie* anticipation of claim 29, or claims depending therefrom (claims 30-36) over Heemann.¹

-The examiner cannot establish that claims 29-36 are obvious over Heemann

In order to establish that claims 29-36 are *prima facie* obvious over Heemann, the examiner must point to two things in Heemann, or in another cited reference, and not in the applicant's disclosure--(1) the suggestion of the invention, and (2) the expectation of its success. *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991). See also MPEP 2143. For the foregoing reasons, the examiner cannot point to a teaching or suggestion of the invention in Heemann et al. Nor can the examiner point to an expectation of success of the claimed invention.

The examiner cannot establish *prima facie* obviousness of claims 29-36 by merely arguing that Heemann could be modified to use "polystyrene composition comprising polystyrene" in combination with "white oil." In order to establish a case of *prima facie* obviousness, the examiner has the burden to point to a teaching or suggestion in the references themselves that it would be desirable to make the modification(s) required to produce the claimed combination. MPEP 2143.01; *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995).

The examiner cannot point to any teaching or suggestion in any cited reference that would motivate a person of ordinary skill in the art to modify Heemann in the manner required to produce the composition of claims 29-36 comprising "polystyrene composition comprising polystyrene" and "white oil." The examiner certainly cannot point to a teaching or suggestion of a combination comprising a "clear polystyrene molding material" and "white oil." Claim 30. The examiner therefore cannot establish a case of *prima facie* obviousness of claim 29 or claims depending therefrom (claims 30-36) over Heemann.

¹ The examiner erroneously cites paragraph [0048], [0084], example 1 for the proposition that Heemann et al. teaches a composition comprising white mineral having "a kinematic viscosity of 551 mm²/s at 20 °C." In fact, the stated viscosity is for "naphthenic mineral oil." ¶ 84. The viscosity of the "medicinal white oil" is listed in paragraph [0085] as "220 mm²/s at 20 °C."

-Koblitz**-The examiner cannot establish that claims 29-36 are anticipated by Koblitz**

The examiner also cannot point to each and every element of new claims 29-36 in Koblitz, and cannot establish a case of *prima facie* anticipation of claims 29-36 over Koblitz.

Koblitz states that "the invention relates to novel polymer-containing compositions, electrical connectors which include said compositions as functional components and methods of making such compositions. More particularly, this invention relates to compositions useful to seal and repair electrical connectors." Koblitz, col. 1, ll. 10-15. According to Koblitz, "the present invention provides sealant compositions requiring two essential components: elastomeric thermoplastic polymer, preferably an organic polymer comprising diblock and triblock copolymers, and extender for the polymer." Koblitz, col. 7, ll. 5-9.

Koblitz describes suitable "Elastomeric Thermoplastic Polymer" as follows:

As the term is used herein, organic "thermoplastic elastomers" are those organic polymers which possess, or which may be plasticized to possess, ***elastomeric properties under a first set of temperature conditions and which are flowable under a second set of temperature conditions.*** . . . It is generally preferred that at ambient temperatures the thermoplastic elastomer used in the present polymer composites is sufficiently rigid to retain its general shape and dimension and sufficiently flexible to exhibit substantial recovery upon stretching.

Koblitz, col. 12, ll. 13-28 (emphasis added). The examiner cannot establish that a "polystyrene composition comprising polystyrene" would possess, "*elastomeric properties under a first set of temperature conditions*" and yet be "*flowable under a second set of temperature conditions.*"

The examiner cannot point to a teaching in Koblitz of a "polystyrene composition comprising polystyrene," as required in new claims 29-36. Koblitz explains that:

composites comprising a physical mixture of **block copolymers** ha[ve] been found to be especially useful and [are] preferred. It is even more preferred that the present compositions comprise an elastomeric thermoplastic polymer composite in the form of a physical IPN comprising block copolymers, and even more preferably comprising diblock and triblock copolymers.

Koblitz, col. 12, ll. 36-43 (emphasis added). Koblitz states that:

Numerous block copolymers exhibiting elastoplastic properties are known, readily available and within the broad scope of the present invention. The block copolymers used in the present polymer composites preferably contain **at least one elastomeric block and one non-elastomeric block**. Such block copolymers are referred to generally as A-B diblock copolymers wherein A represents a block of non-elastomeric polymer and B represents a block of elastomeric polymer connected thereto.

Koblitz, col. 13, ll. 9-15 (emphasis added). Styrene is listed as a suitable “non-elastomeric A block” in Koblitz. col. 13, l. 48. However:

The elastomeric B blocks of the present block copolymers are preferably selected from the group consisting of non-aromatic polyolefins, polyesters, polyethers and combinations of these, with non-aromatic polyolefins being preferred. Polyolefins formed from conjugated dienes, such as butadiene and isoprene, and the partially or fully hydrogenated forms thereof and polyolefins formed from propylene, ethylene, butene and combinations thereof, are especially preferred.

Koblitz, col. 13, ll. 24-32. Koblitz further explains that “the elastomeric thermoplastic polymer of the present invention may also comprise thermoplastic polyurethane elastomers and thermoplastic polyester/polyether elastomers.” Koblitz, col. 14, ll. 12-15.

The examiner cannot point to a teaching in Koblitz of a “polystyrene composition comprising polystyrene” and white oil. Claims 29-36 (emphasis added). The examiner therefore cannot point to each and every element of any of new claims 29-36 in Koblitz, and cannot establish a case of *prima facie* anticipation of claims 29-36 over Koblitz.

-The examiner cannot establish that claims 29-36 are obvious over Koblitz

For the foregoing reasons, the examiner cannot point to a teaching or suggestion of the invention of claims 29-36 (“polystyrene composition comprising polystyrene”) in Koblitz. Nor can the examiner point to an expectation of success of the invention of claims 29-36 in Koblitz. *In re Vaeck*, 20 U.S.P.Q.2d at 1442.

The examiner cannot point to any teaching or suggestion in Koblitz or elsewhere that would motivate a person of ordinary skill in the art to modify Koblitz in the manner required to produce the claimed composition comprising “polystyrene composition

comprising polystyrene" and "white oil." The examiner certainly cannot point to a teaching or suggestion that would motivate a person of ordinary skill in the art to modify Koblitz in the manner required to produce a "clear polystyrene molding material" and "white oil," as required in claim 30. The examiner therefore cannot establish a case of *prima facie* obviousness of claim 29, 30, or claims depending therefrom, over Koblitz. MPEP 2143.01; *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995).

-Makowski

**-The examiner cannot establish that claims
29-36 are anticipated by Makowski**

The examiner cannot establish a case of *prima facie* anticipation of claims 29-36 over Makowski because the examiner cannot point to teaching in Makowski of a "polystyrene composition comprising polystyrene" and "white oil." The examiner therefore cannot point to each and every element of the claims 29-36 in Makowski, and cannot establish a case of *prima facie* anticipation of claims 29-36 over Makowski.

Makowski describes

[n]ovel thermoplastic block copolymers . . . wherein said copolymer is selected from the group consisting of copolymers having the general formula (I) A-B-A, (II) A-B-A-B-A, (III) xB-[A-B]_n-yA and graft copolymers having the general formula



wherein *m* and *n* are integers greater than or equal to 2; *x* and *y* are 0 or 1, and *y* is 0 when *n* is 2; and A and B are mutually incompatible thermoplastic polymer segments.

Makowski, col. 1, ll. 45-59 (emphasis added). Makowski states that "[p]referably A-B-A and A-B-A-B-A block copolymers are prepared so that they are substantially free of either homopolymer, A or B, and A-B diblocks. The presence of homopolymer is least harmful and up to 30% by weight can be tolerated." Makowski, col. 4, ll. 19-23. Example 2, to which the examiner points to describe the use of white oil, uses "a

triblock copolymer of styrene and t-butyl styrene (TBS)." Col. 7, ll. 54-55 (emphasis added).

The examiner cannot establish that Makowski's "copolymers" are polystyrene. The examiner cannot point to a teaching in Makowski of a composition comprising a combination of "[a] polystyrene composition comprising polystyrene" and a "white oil." The examiner therefore cannot point to each and every element of claims 29-36 in Makowski, and cannot establish a case of *prima facie* anticipation of claims 29-36 over Makowski.

**-The examiner cannot establish that claims
29-36 are obvious over Makowski**

For the foregoing reasons, the examiner cannot point to a teaching or suggestion in Makowski of a composition comprising a combination of "polystyrene composition comprising polystyrene" and "white oil." Nor can the examiner point to an expectation of success of the claimed combination in Makowski. *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991). See also MPEP 2143.

The examiner cannot point to any teaching or suggestion in the cited references that would motivate a person of ordinary skill in the art to modify Makowski in the manner required to produce the claimed composition comprising a combination of "polystyrene composition comprising polystyrene" and "white oil." The examiner therefore cannot establish a case of *prima facie* obviousness of claims 29-36 over Makowski. *In re Brouwer*, 37 U.S.P.Q.2d at 1666.

Applicant respectfully requests that claims 29-36 be allowed.

II. NEW CLAIMS 37-46

New claim 37 reads as follows:

37. A polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, wherein the white oil comprises a Fischer-Tropsch derived oil comprising a sulfur content of 5 ppm or less

-Heemann**-The examiner cannot establish that claims 37-46 are anticipated by Heemann**

The examiner cannot establish a case of *prima facie* anticipation of claims 37-46 over Heemann because the examiner cannot point to a teaching or suggestion of “[a] polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, wherein the white oil comprises a Fischer-Tropsch derived oil comprising a sulfur content of 5 ppm or less.”

Paragraph [0085] of Heemann reads: “[0085] j) medicinal white oil FDA-CFR 172.36020-B ‘PIONIER 0352 T’, a product of Hansen & Rosenthal, viscosity 220 mm²/s at 20 °C. (to DIN 51562)”² The examiner cannot establish the composition of Hansen & Rosenthal’s “medicinal white oil FDA-CFR 172.36020-B ‘PIONIER 0352 T’” as of the time that the present application was filed.

The examiner cannot point to any specific teaching in Heemann regarding the sulfur content of the “medicinal white oil” mentioned in Heemann. If claims 37-46 are rejected as anticipated by Heemann, then the examiner must contend that the sulfur level of Heemann’s “medicinal white oil” inherently is “5 ppm or less.” The examiner also must contend that Heemann inherently teaches to combine medicinal white oil having a sulfur content of 5 ppm or less with “[a] polystyrene composition or styrene copolymer composition.” Claim 37.

The examiner cannot meet the burden to establish inherency. “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is

² The examiner also relied on the teaching in Heemann at paragraph [0048] and [0084], example 1. Heemann paragraphs [0048] and [0050] read as follows:

[0048] Hotmelt adhesives with a density of less than 1.0 g/cm³ as measured to DIN 52 004 are preferably used for the process according to the invention. The following components in particular are used for their production, above all in the following quantities:

* * *

[0050] 1 to 20% by weight of the plasticizer medicinal white oil.

Heemann, paragraph [0084] reads:

necessarily present in the thing described in the reference, and that it would be recognized by persons of ordinary skill.” [Citations omitted.] *In re Robertson*, 49 U.S.P.Q.2d 1949, 1951 (Fed. Cir. 1999). “The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.” [citations omitted] MPEP 2112. “In relying upon a the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” MPEP 2112.

The Federal Circuit has overturned an anticipation rejection where a prior art reference merely disclosed the same structure as claimed by a patent and a claimed property of the structure was assumed. *Crown Operations Int'l Ltd. v. Solutia Inc.*, 62 U.S.P.Q.2d 1917, 1922-1923 (Fed Cir. 2002), *reh'g denied* 2002 U.S. Lexis 13283 (Fed. Cir. June 10, 2002). In *Crown*, the claims at issue required a solar control film that contributed no more than about two percent visible reflectance. *Crown* argued that the patent in suit “merely claims a preexisting property inherent in the structure disclosed in the prior art.” *Id.* at 1922. The Federal Circuit held that “[i]f the two percent limitation is inherently disclosed in the Gillary patent, [then] it must be necessarily present and a person of ordinary skill in the art would recognize its presence.” *Id.* at 1922-1923 (emphasis added).

The examiner cannot provide the necessary basis in fact and/or technical reasoning to reasonably support a determination of inherency. In particular, **the examiner cannot point to a teaching in any reference to reasonably support the determination that the medicinal white oil in Heemann necessarily has 5 ppm or less of sulfur.**

[0084] i) naphthenic mineral oil "Shell Oil 4178", a product of Shell, kinematic viscosity 551 mm²/s at 20 °C. (to DIN 51562).

Applicant has only found two reference which discuss ppm sulfur present in mineral oils/white oils: "*Lubricant Base Oil and Wax Processing*," Avilino Sequeira, Jr., Marcel Dekker Inc., New York, 1994, Chapter 6, page 36 ("Sequeira") and U.S. Patent No. 6,723,229 to Hantzer, et al ("Hantzer"). Both references are submitted with an IDS submitted with this response.

The specifications given in Sequiera Tables 2.26 ("U.S. Technical White Oil Specifications") and 2.27 ("U.S. Medicinal Grade White Oil Specifications") do not give a specific ppm limitation for sulfur. Sequiera does discuss the effect of feedstock quality in the production of white oil, explaining that

The yield of base oil depends on the quality of the feedstock and base oil specifications, catalyst and process severity. Since hydrorefining is usually conducted using a fully refined and dewaxed base oil, the yield is usually on the order of 95 to 100 percent basis feed. Feedstocks which are high in sulfur, nitrogen and/or aromatic content provide lower yields and are usually processed in the two-stage hydrorefining units. White oil hydrorefining processes are usually operated at lower pressure than the processes used to stabilize hydrocracked oils.

Sequeira, p. 14. Sequiera then gives the typical range of operating conditions for "the IFP-TOTAL process" and for "the BASF white oil hydrorefining processes."

Table 6.24 in Sequiera (p. 144) describe the results from the manufacture of food grade white oil. As seen from Table 6.24, even using hydrorefining, the "Medium oil" feed produced a product having a sulfur content of 7.3 ppm. Hydrorefining "Light oil" produced a "white oil" with a lower sulfur content (<0.5). However, the examiner cannot point to a teaching or suggestion in Heemann that the medicinal white oil mentioned in Heemann necessarily was made from any particular feedstock, or that the feedstock necessarily was refined to produce 5 ppm or less sulfur.

The resistance of certain materials to desulfurization is discussed in U.S. Patent No. 6,723,229 to Hantzer, et al ("Hantzer"). See, Hantzer, col. 2, ll. 38-64 and col. 3, ll. 22-34. Summarizing the literature, Hantzer reflects on "the inability of an idealized system to drive the conversion of the most resistant sulfur molecules to extinction." Hantzer, col. 3, ll. 28-30. Hantzer describes a four stage process which is said to

produce a product which has substantially 'nil' sulfur" (Hantzer, abstract).³ However, the examiner cannot point to any teaching or suggestion that the white oil/mineral oil in Heemann is made by a process like Hantzer's process.

Applicant also submits several of the references found during a review of the literature for the examiner's information. The large variety of mineral oils is evidenced by the article submitted with the IDS: R. Irwin, National Park Service, "Environmental Contaminants Encyclopedia," *Mineral Oil, General Entry* (July 1, 1997), National Park Service, Water Resources Divisions, Water Operations Branch, Fort Collins, Co. Applicant has not located a teaching regarding sulfur content (or pour point) in a variety of MSDS for mineral oils, which are submitted herewith in the IDS. See MSDS for Lyondell DUOprime® (white mineral oil); MSDS for Mallinckrodt Baker, Inc. (mineral oil); MSDS for "Paraffin Oil," which is synonymous with PRIMOL D, Hampton Research Corp.; and MSDS for "Mineral Oil" of Fluka Chemical Corp. (also synonymous with PRIMOL D).

The examiner cannot point to a teaching in any reference that the medicinal white oil in Heemann necessarily has 5 ppm or less of sulfur. Here, as in *Crown*, the examiner cannot provide the necessary basis in fact and/or technical reasoning to reasonably support a determination that "[a] polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, wherein the white oil [...] comprises] a sulfur content of 5 ppm or less" is necessarily present in Heemann. With respect to the claims 38-46, the examiner also cannot provide the necessary basis in fact and/or technical reasoning to reasonably support a determination that the white oil necessarily:

- (a) has a nitrogen content of 1 ppm or less (claim 38);
- (b) has a kinematic viscosity at 100 °C of more than 7 mm²/sec" (claims 41-42 and 45-46), and/or,
- (c) has a pour point below -10 °C (claims 43-46).

³ The phrase "substantially 'nil' in sulfur" is said to depend "upon the overall process being considered, but can be defined as a value less than about 1 wppm, preferably less than about 0.5 wppm, more preferably less than about 0.1 wppm, and most preferably less than about 0.01 wppm as measured by existing, conventional analytical technology." Hantzer, col. 4. ll. 32-37.

**-The examiner cannot establish that claims
37-46 are obvious over Heemann**

The examiner cannot establish a case of *prima facie* obviousness of claims 37-46 over Heemann because the examiner cannot point to a teaching or suggestion of the claimed composition in Heemann for all of the reasons discussed above.

It would be legally incorrect for the examiner to simply assume that the white oil mentioned in Heemann inherently comprises a sulfur content of 5 ppm or less, and then to argue that a case of *prima facie* obviousness has been made based on that assumption. “[T]he examiner’s assumptions do not constitute the disclosure of prior art.” *In re Rijckaert*, 9 F.3d 1531, 1533-34, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1998). The examiner cannot point to a teaching or suggestion in Heemann that would motivate a person of ordinary skill in the art to modify Heemann in the manner required to produce the claimed “polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, wherein the white oil comprises a Fischer-Tropsch derived oil comprising a sulfur content of 5 ppm or less.”⁴ The examiner therefore cannot establish a case of *prima facie* obviousness over Heemann.

Koblitz

**-The examiner cannot establish that claims
37-46 are anticipated by Koblitz**

The examiner cannot establish a case of *prima facie* anticipation of claims 37-46 over Koblitz because the examiner cannot establish that “[a] polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, wherein the white oil comprises . . . a sulfur content of 5 ppm or less” necessarily is present in

⁴ With respect to claim 38, the examiner cannot point to a teaching or suggestion that would motivate a person of ordinary skill in the art to additionally modify such a composition to use white oil having “a nitrogen content of 1 ppm or less.” The examiner also cannot point to a teaching or suggestion to use a white oil which has the claimed sulfur and nitrogen content and pour point, and which has a kinematic viscosity at 100 °C of more than 7 mm²/sec (claims 41-42 and 45-46). With respect to claims 43-46, the examiner clearly cannot point to a teaching or suggestion that would motivate a person of ordinary skill in the art to additionally modify such a composition to use white oil having a pour point of below -10 °C.

Koblitz and that a person of ordinary skill in the art would recognize its presence.

Crown Operations Int'l Ltd. v. Solutia Inc., 62 U.S.P.Q.2d at 1922-1923.

With respect to claims 38-46, the examiner also cannot provide the necessary basis in fact and technical reasoning to establish that the white oil in Koblitz necessarily has:

- (a) a nitrogen content of 1 ppm or less (claim 38);
- (b) a pour point below -10 °C (claims 43-46); and,
- (c) a kinematic viscosity at 100 °C of more than 7 mm²/sec (claims 41-42 and 45-46).

Id.

-The examiner cannot establish that claims 37-46 are obvious over Koblitz

For the same reasons, the examiner cannot point to a teaching or suggestion of the "invention" in Koblitz, or an expectation of its success, and cannot establish a case of *prima facie* obviousness of claims 37-46 over Koblitz. *In re Vaeck*, 20 U.S.P.Q.2d at 1442.

The examiner cannot point to any teaching or suggestion in Koblitz (a) to select a polystyrene composition or styrene copolymer from the list of possible polymers in Koblitz, and to (b) use white oil in the polystyrene composition or styrene copolymer composition. The examiner certainly cannot point to a teaching or suggestion to use a white oil comprising "a sulfur content of 5 ppm or less."

Koblitz describes extenders for the sealant compositions, explaining:

Applicants have found that the extenders of the present invention impart highly beneficial and advantageous characteristics to the sealant compositions and to the methods by which such compositions are prepared. In particular, extenders comprising a combination of both primary and secondary extenders [and] contribute to the surprising and unexpected rheological properties of the present compositions.

Specification, col. 14, ll. 36-43. After explaining the function of the extenders, and giving a large number of primary and secondary extenders, Koblitz explains that "numerous known and available materials may be used as primary and secondary

extenders according to the present invention." Koblitz, col. 16, ll. 4-6. Koblitz gives the following examples of suitable extenders:

For compositions in which the elastomeric thermoplastic polymer comprises a combination of diblock and triblock copolymer, it is preferred that the secondary extender be selected from the group consisting of naphthenic oils, white oils and terpenoid hydrocarbons and that the primary extender be selected from the group consisting of polybutadiene, polybutene, polybutylene, hydrocarbon resins, atactic polypropylene, branched polyethylene and low molecular weight styrenic polymers.

Koblitz, col. 16, ll. 13-22. Koblitz further explains that:

The extender of the present invention is preferably selected from the group comprising one or more of the following: aliphatic hydrocarbons, such as aliphatic mineral oil; aromatic hydrocarbons, such as aromatic mineral oil; C1-C6 non-aromatic polyolefins, such as polybutene; ester compounds, such as monomeric phthalate esters, dibasic acid esters, trimellitates, phosphate esters and polyesters; glycol benzoates; citrates; isophthalates; chlorinated hydrocarbons; sebacates and mixtures and combinations of the these (sic).

Koblitz, col. 16, ll. 4-35. The portion of Koblitz cited by the examiner states that: "[a]ccording to preferred embodiments of the present invention, the secondary extender comprises mineral oil." Koblitz, col. 16, l. 64 - col. 17, l. 12 (emphasis added).

The examiner cannot establish the particular composition of the white oil or mineral oil mentioned in Koblitz. The examiner cannot establish that Koblitz' "mineral oil" necessarily is "white oil," as required by the claims. It would be legally incorrect for the examiner to simply assume that the white oil or mineral oil mentioned in Heemann inherently comprises a sulfur content of 5 ppm or less, and then to argue that a case of *prima facie* obviousness has been made based on that assumption. "[T]he examiner's assumptions do not constitute the disclosure of prior art." *In re Rijckaert*, 9 F.3d 1531, 1533-34, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1998).

Nor can the examiner point to a teaching or suggestion in Koblitz (a) to select a polystyrene composition or styrene copolymer from the list of possible polymers in Koblitz, and (b) to use white oil in the polystyrene composition or styrene copolymer composition. The examiner certainly cannot point to a teaching or suggestion to use a white oil comprising "a sulfur content of 5 ppm or less" in the polystyrene composition or styrene copolymer composition. Given the teachings of Sequeira regarding sulfur

levels produced by hydrorefining and the teachings of Hantzer regarding the difficulty of desulfurization, described above, the examiner cannot provide a basis in fact and/or technical reasoning to reasonably support a determination that Koblitz necessarily teaches such a composition.

The examiner also cannot point to a teaching or suggestion in Koblitz, or in another cited reference, that would motivate a person of ordinary skill in the art to modify Koblitz in the manner required to produce “[a] polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, **wherein the white oil comprises . . . a sulfur content of 5 ppm or less.**” The examiner therefore cannot establish a case of *prima facie* obviousness of claims 37-46 over Koblitz. *In re Brouwer*, 37 U.S.P.Q.2d at 1666.⁵

-Makowski

-The examiner cannot establish that claims 37-46 are anticipated by Makowski

The examiner also cannot point to a teaching in Makowski of “[a] polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, **wherein the white oil comprises a Fischer-Tropsch derived oil comprising a sulfur content of 5 ppm or less.**” If a “polystyrene composition or styrene copolymer composition comprising a white oil” comprising a “sulfur content of 5 ppm or less,” or having the properties defined in claims 38-46, is inherently disclosed in Makowski, then the examiner has the burden to show that **it must necessarily be present and that a person of ordinary skill in the art would recognize its presence.** *Crown Operations Int'l Ltd v. Solutia Inc.*, 62 U.S.P.Q.2d at 1922-1923.

The examiner cannot meet this burden. The examiner cannot establish a case of *prima facie* anticipation of claims 37-46 over any of Heemann, Koblitz, or Makowski.

⁵ With respect to claim 38, the examiner cannot point to a teaching or suggestion to use a “white oil ha[ving] a nitrogen content of 1 ppm or less.” The examiner certainly cannot point to a teaching of such a composition wherein the white oil has a kinematic viscosity at 100 °C of more than 7 mm²/sec (claim 41-42 and 45-46). With respect to claims 43-46, the examiner cannot point to a teaching to use a white oil having a pour point of below -10 °C.

**-The examiner cannot establish that claims
37-46 are obvious over Makowski**

The examiner also cannot establish a case of *prima facie* obviousness of claims 37-46 over Makowski.

The examiner points to Example 2 of Makowski as teaching a composition comprising "Primol D." However, Makowski describes Primol D as follows: "Primol D is a white oil having an average molecular weight of about 500 by vapor pressure osmometry. It is based on paraffinic and naphthenic hydrocarbons and has a specific gravity of 0.885, measured at 15.6 °C.; a kinematic viscosity measured at 20 °C. of 250 centistokes; and a refractive index at 20 °C. of 1.4823." Makowski, col. 8, ll. 12-18. The MSDS forms for "Paraffin Oil" (Hampton Research Corp.) and for "Mineral Oil" (Fluka Chemical Corp.) both say that synonyms include "Primol D." Applicant has been unable to identify a ppm sulfur content of from these documents.

The examiner cannot point to a teaching or suggestion in Makowski that Primol D has "a sulfur content of 5 ppm or less." It would be legally incorrect for the examiner to simply assume that Makowski inherently teaches that Primol D has a sulfur content of 5 ppm or less and then to argue that a case of *prima facie* obviousness has been made based on that assumption. "[T]he examiner's assumptions do not constitute the disclosure of prior art." *In re Rijckaert*, 28 U.S.P.Q.2d at 1956.

Given the teachings of Sequeira regarding sulfur levels produced by hydrorefining and the teachings of Hantzer regarding the difficulty of desulfurization, described above, the examiner cannot provide a basis in fact and/or technical reasoning to reasonably support a determination that Primol D necessarily comprises a "sulfur content of 5 ppm or less."

The examiner also cannot point to a teaching or suggestion in Makowski, or in another cited reference, that would motivate a person of ordinary skill in the art to modify Makowski in the manner required to produce "[a] polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, wherein the white oil comprises a Fischer-Tropsch derived oil comprising a sulfur content of 5 ppm or less."

For the foregoing reasons, the examiner cannot establish a case of *prima facie* obviousness of claims 37-46 over Makowski. *In re Brouwer*, 37 U.S.P.Q.2d at 1666. Applicant respectfully requests that claims 37-46 be allowed.⁶

III. NEW CLAIMS 47-57

-Heemann

-The examiner cannot establish that claims 47-57 are anticipated by Heemann

The examiner cannot establish a case of *prima facie* anticipation of new claims 47-57 over Heemann because the examiner cannot point to a teaching or suggestion of “[a] polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, wherein the white oil comprises a Fischer-Tropsch derived oil having a pour point below -10 °C.”

If a “polystyrene composition or styrene copolymer composition comprising a white oil” having “a pour point below -10 °C” is inherently disclosed in Heemann, then the examiner has the burden to show that it must necessarily be present and that a person of ordinary skill in the art would recognize its presence. *Crown Operations Int'l Ltd. v. Solutia Inc.*, 62 U.S.P.Q.2d at 1922-1923.

Applicant has been unable to identify a pour point for mineral oil/white oil in the articles and MSDS submitted with the IDS. The examiner cannot point to a teaching or suggestion in any cited reference that the white oil/mineral oil in Heemann necessarily has “a pour point below -10 °C.” The examiner therefore cannot establish a case of *prima facie* anticipation of claims 47-57 over Heemann.

⁶ With respect to claim 38, the examiner cannot point to a teaching or suggestion that would motivate a person of ordinary skill in the art to additionally modify such a composition to use white oil having “a nitrogen content of 1 ppm or less.” With respect to claims 41-42 and 45-46, the examiner also cannot point to a teaching or suggestion to additionally modify such a composition to use a white oil having a kinematic viscosity at 100 °C of more than 7 mm²/sec (claim 44). With respect to claims 43-46, the examiner cannot point to a teaching or suggestion that would motivate a person of ordinary skill in the art to additionally modify such a composition to use white oil having a pour point of below -10 °C.

**-The examiner cannot establish that claims
47-57 are obvious over Heemann**

Nor can the examiner establish a case of *prima facie* obviousness of new claims 47-57 over Heemann.

The specification explains that “the pour point of the Fischer-Tropsch derived oils is typically lower than that of the mineral derived white oils having comparable viscosity.” Specification, p. 3, l. 12-15. The examiner has not established that the medicinal white oil in Heemann has a pour point below -10 °C. It would be legally incorrect for the examiner to simply assume that Heemann inherently teaches or suggests the use of a white oil having a pour point below -10 °C in the claimed composition, and then to argue that a case of *prima facie* obviousness has been made based on that assumption. “[T]he examiner’s assumptions do not constitute the disclosure of prior art.” *In re Rijckaert*, 9 F.3d 1531, 1533-34, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1998).

The examiner also cannot point to a teaching or suggestion in Heemann that would motivate a person of ordinary skill in the art to modify Heemann to use white oil having a pour point below -10 °C. The examiner therefore cannot establish a case of *prima facie* obviousness of claims 47-57 over Heemann.

-Koblitz

**-The examiner cannot establish that claims
47-57 are anticipated by Koblitz**

The examiner cannot establish a case of *prima facie* anticipation of claims 47-57 over Koblitz because the examiner cannot point to a teaching or suggestion in Koblitz of “[a] polystyrene composition or styrene copolymer composition comprising a white oil as a plasticizer, wherein the white oil comprises a Fischer-Tropsch derived oil having a pour point below -10 °C.”

The examiner cannot establish that the mineral oil in Koblitz has a pour point below -10 °C. If the claimed composition comprising white oil “having a pour point below -10 °C is inherently disclosed in Koblitz, then the examiner has the burden to show that the combination must necessarily be present and that a person of ordinary skill

in the art would recognize its presence. *Crown Operations Int'l Ltd. v. Solutia Inc.*, 62 U.S.P.Q.2d at 1922-1923.

The examiner cannot meet this burden, and cannot establish a case of *prima facie* anticipation of claims 47-57 over Koblitz.

**-The examiner cannot establish that claims
47-57 are obvious over Koblitz**

For all of the reasons given above, the examiner also cannot point to any teaching or suggestion in Koblitz (a) to select a polystyrene composition or styrene copolymer from the list of possible polymers in Koblitz, and (b) to use white oil in the polystyrene composition or styrene copolymer composition. The examiner certainly cannot point to a teaching or suggestion in Koblitz that the white oil or mineral has "a pour point below -10 °C."

Applicant has been unable to locate a teaching regarding the pour point of the mineral oils/white oils in the various MSDS submitted with the IDS. It would be legally incorrect for the examiner to simply assume that Makowski inherently teaches that Primol D has a pour point of below -10 °C or less and then to argue that a case of *prima facie* obviousness has been made based on that assumption. "[T]he examiner's assumptions do not constitute the disclosure of prior art." *In re Rijckaert*, 28 U.S.P.Q.2d at 1956.

The examiner cannot point to a teaching or suggestion in Koblitz, or in another cited reference, that would motivate a person of ordinary skill in the art to modify Koblitz in the manner required to produce the claimed composition. The examiner therefore cannot establish a case of *prima facie* obviousness of claims 47-57 over Koblitz. *In re Brouwer*, 37 U.S.P.Q.2d at 1666.

-Makowski

**-The examiner cannot establish that claims
47-57 are anticipated by Makowski**

The examiner cannot establish a case of *prima facie* anticipation of claims 47-57 over Makowski because the examiner cannot point to a teaching or suggestion in Makowski of "[a] polystyrene composition or styrene copolymer composition

comprising a white oil as a plasticizer, wherein the white oil comprises a Fischer-Tropsch derived oil having a pour point below -10 °C."

The examiner cannot point to a teaching or suggestion in Makowski that Primol D has "a pour point below -10 °C." If "[a] polystyrene composition or styrene copolymer composition comprising a . . . white oil . . . having a pour point below -10 °C" is inherently disclosed in Makowski, then the examiner has the burden to show that the combination must necessarily be present and that a person of ordinary skill in the art would recognize its presence. *Crown Operations Int'l Ltd. v. Solutia Inc.*, 62 U.S.P.Q.2d at 1922-1923. The examiner cannot meet this burden, and cannot establish a case of *prima facie* anticipation of claims 47-57 over Makowski.

**-The examiner cannot establish that claims
47-57 are obvious over Makowski**

The examiner also cannot establish a case of *prima facie* obviousness of claims 47-57 over Makowski.

The examiner cannot point to a teaching or suggestion in Makowski that Primol D has "a pour point below -10 °C." Applicant has been unable to locate a teaching regarding the pour point in the MSDS of Hampton Research Corp. and Fluka Chemical Corp. for oils which are described as synonymous with PRIMOL D. It would be legally incorrect for the examiner to simply assume that Makowski inherently teaches that Primol D has a pour point below -10 °C and then to argue that a case of *prima facie* obviousness has been made based on that assumption. "[T]he examiner's assumptions do not constitute the disclosure of prior art." *In re Rijckaert*, 28 U.S.P.Q.2d at 1956. The examiner cannot point to any teaching or suggestion in Makowski to combine a polystyrene composition or styrene copolymer with white oil "having a pour point below -10 °C."

The examiner also cannot point to a teaching or suggestion in Makowski, or in another cited reference, that would motivate a person of ordinary skill in the art to modify Makowski in the manner required to produce the claimed composition. The examiner therefore cannot establish a case of *prima facie* obviousness of claims 47-57 over Makowski. *In re Brouwer*, 37 U.S.P.Q.2d at 1666.

Applicant respectfully requests that claims 47-57 be allowed.

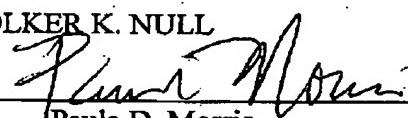
CONCLUSION

In view of the above amendments and remarks, Applicants believe the instant application to be in condition for allowance and respectfully request that such action be taken. The Commissioner is authorized to charge the fee for extension of time under 37 CFR 1.136. to Deposit Account No. 19-1800 (File no. TS9504), maintained by Shell Oil Company.

Respectfully submitted,

VOLKER K. NULL

By



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